Annual Report

Of

Pasadena's Municipal Lighting Works Department

1910-1911

Pasadena, California

WILLIAM THUM, Mayor

C. W. KOINER,
General Manager
and Electrical Engineer

LIGHTING COMMITTEE:
C. W. Rhodes, Chairman
W. K. Fogg
W. T. Root

Office of The Municipal Lighting Works Department

Pasadena, Cal., September 5, 1911.

To the Honorable Mayor and City Council of the City of Pasadena, California.

Gentlemen:

I submit herewith the annual report of the Municipal Lighting Works Department for the year ending June 30, 1911. I have endeavored to give all the details that may prove of interest.

The receipts show actual charges for electrical energy supplied. You will note by comparison with last year that the—

Commercial receipts increased 74%
Gross receipts increased 47%
Net receipts increased 48%
(ALTHOUGH THE RATES WERE REDUCED 30%)
Output in K. W. H. increased 51%
Number of consumers was increased by 1563, or 66%

There has been no month in the year in which we did not make a net gain in number of consumers.

The average investment for the department was $462,639.60. The net receipts, exclusive of bond interest and sinking fund, amounted to 11.58% on the average investment in the plant.

The maximum base rate was reduced from 7 cents to 5 cents per K. W. H. on September 1, 1910, therefore for ten months of the fiscal year covered by this report, our maximum base rate was only 5 cents per K. W. H.

If the 7-cent rate had continued during the ten months, we would have earned $14,500.00 more without any additional operating expense. This difference the people kept in their pockets, together with the difference that they are saving between the maximum rate charged at this time and that paid at the time the city established its Municipal Lighting Plant.

If we had received the old rate charged before the city entered the lighting business our net receipts would have been $55,000.00 more, without adding any additional cost to our operating expense. Thus our total net receipts at the old rate would have been not less than $108,500.00.

If all of the electrical energy sold in Pasadena during the past fiscal year had been sold at the rate charged before the city entered the lighting field, the people would have paid not less than $125,000.00 more for their electrical energy. That is to say, as a result of the installation of Pasadena's Municipal Lighting Plant the people have saved in their pockets not less than $125,000.00 the past year by reason of the difference in rates.

This is a very large saving, and if there is anyone that is the least skeptical as to the truth of this statement, all that is necessary is to consider the great reduction from 12½ cents, less 10%, to the rates of 5 cents and 4 cents now prevailing in this city, which amounts to approximately 59%, and further, to consider the fact that there are between 7,400 and 7,500 electric meters in service in the city of Pasadena, plus all of the street lighting, which is now furnished at 23% less than charged before the establishment of the city's plant.

In addition to the above showing the plant earned 11.06% on the total investment. This is about 3½% better than promised when the rate was reduced to 5 cents. When it is considered that 4% is ample for interest on investment and 5% is sufficient to take care of all depreciation, there remains 2.06% ($9,991.31) as a surplus earning for the year.

All the earnings of this department for the past year were reinvested in extensions or construction work. We connected 2,348 additional meters, added one new boiler to the plant, built new pole lines into new sections of the city and added 160 street lights, therefore our earnings were required for this work and instead of having the money, we have its value in property that is now earning a return.

The construction work planned for the present consists of the installation of a new turbine in the power plant which will nearly double the generating capacity, together with pole line extensions into new territory and some additional street lights in new territory and in other places as needed.

I am planning a new building for the power plant. The building which we should have to house our machinery should be one that is in keeping with the scheme of beautifying Pasadena. However, inasmuch as the building does not earn a dividend, we can get along for the next couple of years with the present building. We are planning with the completion of the new steam turbine to plant vines and shrubbery around our present power plant with a view of improving the appearance of the place. This will enable us to get along with our present building until such time as we can erect a substantial concrete or brick building.

Referring to the maintenance of the property of this department, I wish to advise that we are maintaining the entire equipment by making prompt and thorough repairs to all equipment as needed. Every attention is paid to keeping the property in first class condition, all of which is charged to operating expense. As an example, if a building in which we have meters is burned, those that are destroyed we replace with new ones, charging same to repairs, thus keeping intact the total number of meters, as to size, etc., at all times. This also applies to transformers and any other apparatus that has to be replaced. Thus the original investment is kept intact at the expense of maintenance which is charged to operation rather than to a depreciation fund. Inasmuch as we are using the money earned for depreciation for extensions, it is necessary to maintain the plant in this manner.

Thanks to the citizens of Pasadena for voting to purchase the building adjoining the City Hall, as an office for this department, we are now located conveniently for all of our customers to reach us easily for paying bills and transacting other business. In this connection, it is very gratifying to state that 99% of all of our customers pay their bills either by check or in the office of this department. This shows a spirit of cooperation and with the loyalty of the people, the owners of this plant, the continued success of this department is assured. It is to the patrons of this department that its success is due.

The total number of consumers at the close of the past fiscal year was 3920 which is 80 short of the 4000 that we have been striving to secure during the past year. The competition we have had in building up the business of this department for the people of Pasadena, has been such that it has put to test the civic pride, loyalty and that higher patriotism of the people of this community, and it is gratifying to note the large percentage who are intensely loyal to Pasadena and Pasadena's enterprises.

The opposition to the city plant has been making every effort to misrepresent conditions as they exist. They take particular pains to misrepresent matters to new-comers, people who have recently come to make their homes in Pasadena—those who have not been familiar with conditions prior to the time that the city established its light and power plant. The Southern California Edison Company do not offer the inducements in other towns of Southern California that they are offering to the citizens of Pasadena. That is, they are not willing to sell current below 10 cents in the other towns which they supply, hence, they exact tribute from their patrons in other California cities, to pour it out in Pasadena with the delusion that they can prevent this municipality from making a success of the light and power business.

The fact that the net receipts on the total investment of this department for the year were—

1908-1909	9%
1909-1910	9%
1910-1911	11.06%

at the extremely low rates charged for electrical energy in this city and under the adverse conditions existing, with a division of the patronage, is convincing proof for the most skeptical that a municipality can conduct any utility of a like nature and make it a success.

Respectfully submitted,

C. W. KOINER,

General Manager Municipal
Lighting Works Department.

	1910-1911	1909-1910	1908-1909
Receipts and charges as per page 6	$110,011.10	$74,935.32	$45,881.29
Expenditures, as per pages 6 and 7	56,392.21	38,629.41	20,901.07
	$ 53,618.89	$36,305.91	$24,980.22
Interest on 1906 issue of bonds for year	$ 4,500.00	$ 4,625.00	$ 4,750.00
Interest on 1908 issue of bonds for year	2,137.50	2,193.75	2,250.00
Interest on 1909 issue of bonds for year	5,750.00	6,000.00	1,500.00
1 bond retired, 1906 issue	3,125.00	3,125.00	3,125.00
1 bond retired, 1908 issue	1,250.00	1,250.00	1,250.00
1 bond retired, 1909 issue	3,750.00	3,750.00	
	$20,512.50	$20,943.75	
Amount applicable for depreciation or construction.	33,106.39	15,362.16	12,105.22
	$ 53,618.89	$36,305.91	$24,980.22

	1910-1911	1909-1910	1908-1909
Output (K. W. Hour) net	2,763,872.	1,826,246.	1,125,791.
K. W. Hour per barrel of oil	120.9	122.9	129.81
Manufacturing cost per K. W. H.	$ 0.01103	$ 0.0124	$ 0.0113
Distributing cost per K. W. H.	0.00937	0.0087	0.0072
Total cost of manufacturing & distribution per K. W. H. for all current generated.	$ 0.0204	$ 0.0211	$ 0.0185
Operating expense 50.7% of gross income.			
Meters in operation July 1st of each year	3,920	2,357	1,105
Average meters in operation during year	3,542	1,759	798

Charges for commercial light and power by months:

July	$ 3,317.52	$ 1,749.22	
August	3,462.30	1,866.81	
September	3,581.90	2,080.90	
October	5,110.07	2,515.25	218.48
November	6,105.17	2,766.82	812.95
December	7,376.40	4,091.48	1,558.57
January	8,328.90	4,775.89	2,148.30
February	7,775.96	4,771.60	1,934.04
March	7,788.91	4,852.26	1,999.08
April	6,784.79	4,520.59	1,874.48
May	5,741.51	3,457.37	1,686.24
June	5,146.96	3,046.09	1,808.55
	$70,520.39	$40,494.28	$14,040.69

Efficiency of distributing system, 84.2%.

	1910-1911	1909-1910	1908-1909
Revenue per K. W. station capacity	73.34		
Revenue per K. W. average station capacity		74.93	91.16

OPERATION ACCOUNT

Earnings

		1910-1911	1909-1910	1908-1909
Street lighting	$39,622.37			
Less $1200.00 overcharge to be deducted from August, 1911	1,200.00	$38,422.37	$33,311.24	$30,563.56
City Buildings		1,068.34	1,129.80	1,271.51
Charges for commercial light and power		70,520.39	40,494.28	14,046.22
		$110,011.10	$74,935.32	$45,881.29

Expenditures

Manufacturing:		1910-1911	1909-1910	1908-1909
Fuel oil on hand July 1, '10	$ 475.00			
Fuel Oil purchased during year	21,048.79			
	$21,523.79			
Freight refund	$ 6.75			
On hand July 1, '11	957.82	964.57		
Fuel oil used during year		$20,559.22	$13,965.56	$ 7,976.39
Lubricants on hand July 1, '10	$ 142.41			
Lubricants purchased during year	1,091.24			
	$ 1,233.65			
Sale of barrels	$ 60.35			
On hand July 1, '11	132.65	193.00		
Lubricants used during year		1,040.65	806.87	438.72
Wages at station for year		5,281.79	5,017.25	3,489.84
Water at station for year		34.70	92.80	114.60
Miscellaneous manufacturing supplies on hand July 1, '10	$ 32.00			
Purchased during year	1,299.60			
	$ 1,331.60			
Miscellaneous credits	$ .19			
On hand July 1, '11	143.30	143.49		
Miscellaneous manufacturing supplies used during year		1,188.11	925.23	381.05
Repairs to building		312.16	170.22	7.00
Repairs to steam equipment—				
Purchased during year	$ 2,012.42			
Miscellaneous sales	$ 8.50			
On hand July 1, '11	200.96	209.46		
Used during year		1,802.96	409.30	222.40
Repairs to electrical equipment—				
On hand July 1, '10	$ 150.00			
Purchased during year	316.20			
	$ 466.20			
On hand July 1, '11	198.74			
Used during year		267.46	1,332.05	112.78
Total manufacturing cost for year		$30,487.05	$22,719.28	$12,742.78

			1910-1911	1909-1910	1908-1909
Brought forward			$30,487.05		
Distribution:					
Operation of public arcs		$ 2,210.13		$ 1,661.40	$ 1,470.69
Operation of public incandescents		2,028.49		1,654.15	588.50
Operating expenses pertaining to commercial light and power		6,295.05		3,667.11	1,516.66
Commercial incandescent lamps		3,279.29			
Repairs to public arc and incandescent pole lines		434.54		640.48	622.93
Repairs to commercial pole lines		342.79		456.36	31.77
Repairs to public arc lamps		361.63		238.21	49.49
Repairs to meters		65.37		13.65	.32
Repairs to transformers		555.74			
		$15,573.03		$ 8,331.36	$ 4,280.36
Inventory July 1, '10		$ 1,232.55		1,439.39	1,463.92
		$16,805.58		$ 9,770.75	$ 5,744.28
Accounts receivable	$ 238.99				
Cash on hand	5.00				
Sale of commercial lamps	1,368.65				
Sale of street lamps	106.49				
Miscellaneous sales	129.91				
Inventory July 1, '11	2,977.44	4,826.48		1,354.20	1,697.45
Total distribution cost for year			$11,979.10	$ 8,416.55	$ 4,046.83
General:					
Salaries for year	$9,129.82				
Miscellaneous credit	$ 7.30				
Credit by bal. acct. sale of commercial lamps	60.63	67.93	$ 9,061.89	$ 5,000.32	$ 3,192.83
Office Supplies—					
Inventory July 1, '10		$ 50.00			
Purchased during year		2,126.98			
		$2,176.98			
Inventory July 1, '11		65.72	2,111.26	1,323.11	695.23
Insurance for year			136.00	75.00	
Emergencies for year			61.25		
Legal expense for year			529.20		2.00
Advertising, soliciting and canvassing			1,311.46	1,095.15	221.40
Office rent			715.00		
Total general cost for year				13,926.06	$ 7,493.58	$ 4,111.46
Total				$56,392.21	$38,629.41	$20,901.07

Maximum rate for commercial lighting:

July 1, 1910—July 1, 1911.

7c per K. W. H. for two months.

5c per K. W. H. for ten months.

July 1, 1909—July 1, 1910.

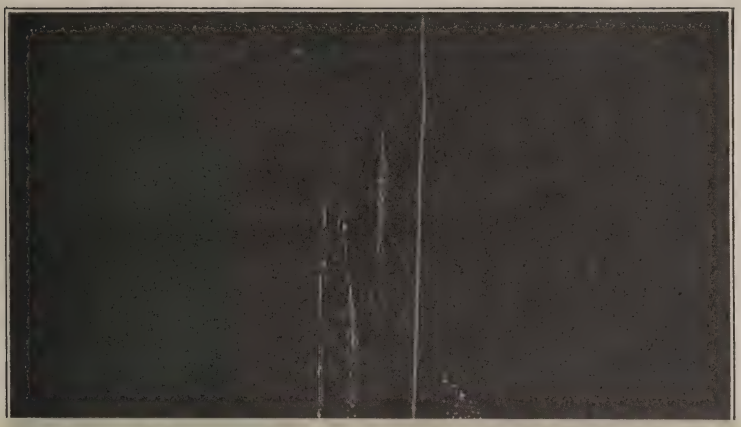
8c per K. W. H. for five months.

7c per K. W. H. for seven months.

1908-1909—

8c per K. W. H.

View of Street Lighting of Pasadena taken from Mt. Wilson Observatory, January, 1905. Lighted by Private Corporation.



PASADENA LIGHTING BELOW WHITE LINE

LOS ANGELES LIGHTING ABOVE

View of Street Lighting of Pasade[illegible], 1911. Lighted by Municipal Plant.

TRIAL BALANCE JULY 1, 1911

DEBIT ACCOUNTS

Municipal Lighting Fund (City Treasurer)		$ 5,909.06	
Municipal Lighting Fund (Cashier of M. L. D.)		110.00	
Accounts Receivable:			
Commercial Lighting	$ 5,918.94		
Commercial Power	877.16		
City Buildings	6.07	6,802.17	
Property Account:			
Old Construction, paid from taxation and bonds	$407,271.13		
New Construction, paid from operation	77,479.80	484,750.93	
Interest on bonds		42,081.25	
Inventory July 1, 1911:			
Operation Account—			
No. 2, Fuel at station	$ 957.82		
No. 4, Lubricants	132.65		
No. 5, Miscellaneous mfg. supplies	143.30		
No. 7, Repairs to steam equipment	200.96		
No. 8, Repairs to electrical equipment	198.74		
No. 10, Operation of public arcs	92.45		
No. 11, Operation of public incandescents	9.70		
No. 11½, Street incandescent lamp renewals	823.08		
No. 12, Operation of commercial light and power	158.81		
No. 13, Commercial incandescent lamps	1,983.78		
No. 14, Operation of meters	37.00		
No. 15, Repairs to public arc & incandescent pole lines	45.76		
No. 17, Repairs to public arcs	70.85		
No. 21, Office supplies	65.72		
Construction Account—			
No. 29, Station equipment	388.40		
No. 30, Overhead lines, commercial	2,530.93		
No. 32, Transformers	596.00		
No. 33, Meters	1,231.55		
No. 35, Incandescent street fixtures	36.10	9,703.60	

CREDIT ACCOUNTS

Deposits			$ 60.00
Bonds:			
Municipal Electric Light 1906	$109,375.00		
Electric Light Extension 1908	46,250.00		
Electrical Construction 1909	142,500.00		298,125.00
Taxes:			
On account of plant	$ 54,632.30		
On account of interest and retirement of bonds	48,012.50		102,644.80
General Fund (Bills Payable)			22,000.00
Operation			122,690.78
Premium on bonds			3,836.43
Totals		$549,357.01	$549,357.01

CASH ACCOUNT

Receipts

Operation	Dr.	Cr.
Balance July 1, 1910	$ 4,337.01	
Street Lighting	39,775.56	
City Buildings	1,169.51	
Commercial Light and Power	67,005.06	
General Fund Loan	25,000.00	
Miscellaneous Sales	4,060.58	
Total as per our Ledger	$141,347.72	

(NOTE: Receipts for street lighting include $1,200.00 overcharge which will be deducted in August, 1911.)

Disbursements

Total Operation Demands paid		$ 60,919.01
Total Construction Demands paid		71,361.65
Deposits returned		48.00
General Fund Loan returned		3,000.00
Cash on hand (City Treasurer)	$5,909.06	
Cash on hand (Cashier M. L. D.)	110.00	6,019.06
		$141,347.72

CONSTRUCTION ACCOUNT

STATEMENT

Balance July 1, 1910	$ 8,889.55	
Inventory July 1, 1910	4,673.74	
Construction demands paid—July 1, '10, to July 1, '11	71,361.65	
	$84,924.94	
Miscellaneous sales of scrap copper, etc., and refunds for work done		$ 2,662.16
Inventory July 1, 1911		4,782.98
Transfer to Property Account		77,479.80
		$84,924.94

Value of plant July 1, 1910		$416,160.68
Inventory July 1, 1910		4,673.74
Expenditures, July 1, '10, to July 1, '11		71,361.65
		$492,196.07
Miscellaneous sales and refunds for work done		2,662.16
		$489,533.91
Inventory of material on hand July 1, 1911		4,782.98
Value of plant, July 1, 1911		$484,750.93

BOND ACCOUNT

STATEMENT

1906, 4% bonds—balance July 1, 1910	$112,500.00	
1 bond paid, June, 1911	3,125.00	$109,375.00
1908, 4½% bonds—balance, July 1, 1910	$ 47,500.00	
1 bond paid, April, 1911	1,250.00	46,250.00
1909, 4% bonds—balance July 1, 1910	$146,250.00	
1 bond paid, March, 1911	3,750.00	142,500.00
Total bonds outstanding at this date		$298,125.00

Interest to be paid in the year 1911-1912:

On bonds issued in 1906,	$ 4,375.00	payable July 1 and Jan. 1.
On bonds issued in 1908,	2,081.25	payable April 1 and Oct. 1.
On bonds issued in 1909,	5,700.00	payable March 1 and Sept. 1.
	$12,156.25	

Bonds to be retired in year 1911-1912:

July 1, 1912, bonds issued in 1906	$3,125.00
April 1, 1912, bonds issued in 1908	1,250.00
March 1, 1912, bonds issued in 1909	3,750.00
	$8,125.00

OUTPUT K. W. H.

	1910-1911			1909-1910		
	Output.	Receipts.	Rcts. per K.W.H	Output.	Receipts.	Rcts. per K.W.H
Street Lighting	735,922	$ 38,422.37	.0522	663,503	$33,311.34	.0502
Commercial System	1,568,041	71,588.73	.0456	769,357	41,624.08	.0541
Total current sold	2,303,963	$110,011.10	.0477	1,432,860	$74,935.42	.0522

	1910-1911
Lighting at Plant	17,989
Lighting at Stockroom and Office	5,382
Total	23,371
Light loss or unaccounted for current	436,538
Total current generated	2,763,872

	1910-1911	1909-1910	
Received for all current generated	$ .0398	$ .041	per KWH
Received for all current sold	.0477	.0517	
Cost of all current generated	.0204	.0211	
Cost of all current sold	.0244	.0266	
(The above cost is exclusive of bond interest and sinking fund.)			
Efficiency of distributing system	84.2%	79.7%	

GENERAL INFORMATION

CAPACITY OF STATION 1500 K. W., normal rating, consisting of direct connecting units, three in number. 1500 K. W. additional capacity is being installed which will make a total capacity when completed November 1st, 1911, of 3000 K. W.

NUMBER OF MILES OF SINGLE CONDUCTOR WIRE in service, 716.

TRANSFORMER CAPACITY of the distributing system, 2330½ K. W.

POLE LINE consists of 4450 poles in all parts of the city.

CAPACITY OF METERS in kilowatts, 4000.

METERS set during year		2348
Meters removed account lost to opposition	604	
Meters removed for other causes in the course of operation	181	785
NET GAIN		1563

STREET LIGHTS consist of the following:

300 arc lights.
1055 40-candle power Tungsten lights.
17 60-candle power Tungsten lights.
64 80-candle power Tungsten lights.
42 200-candle power Tungsten lights.
55 32-candle power carbon lamps.
130 cluster posts, 13 lights each.

SCHEDULE OF RATES FOR—
INCANDESCENT LIGHTING

Class "A."—The first 100 kilowatt hours, or less, of energy furnished in any one month to any consumer, 5 cents per kilowatt hour.

"Class B"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 100 kilowatt hours and not exceeding 500 kilowatt hours, 4½ cents per kilowatt hour.

"Class C"—The kilowatt hour of energy furnished in any one month to any consumer in excess of 500 kilowatt hours and not exceeding 1000 kilowatt hours, 4 cents per kilowatt hour.

"Class D"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 1000 kilowatt hours and not exceeding 2000 kilowatt hours, 3½ cents per kilowatt hour.

"Class E"—The kilowatt hours of energy furnished in any one month to any consumer over 2000 kilowatt hours, 3 cents per kilowatt hour.

A minimum monthly charge of 75 cents per meter of three kilowatt capacity or less, and 30 cents for each additional kilowatt of meter capacity required shall be made for each meter.

All energy furnished through or measured by a meter used for any incandescent lighting shall be paid for at incandescent lighting rates.

All energy furnished through or measured by a meter used for measuring energy used in arc lighting and not for any incandescent lighting, shall be deemed arc light energy.

Upon request of consumer separate meters will be furnished for incandescent lighting, arc lighting and power and heat purposes.

POWER.

"Class A Power"—The first 100 kilowatt hours or less, furnished in any one month to any consumer, 4 cents per kilowatt hour.

"Class B Power"—The kilowatt hours furnished in any one month to any consumer in excess of 100 kilowatt hours and not exceeding 500 kilowatt hours, 2.4 cents per kilowatt hour.

"Class C Power"—The kilowatt hours furnished in any one month to any consumer in excess of 500 kilowatt hours and not exceeding 1500 kilowatt hours, 2 cents per kilowatt hour.

"Class D Power"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 1500 kilowatt hours, and not exceeding 5000 kilowatt hours, 1.9 cents per kilowatt hour.

"Class E Power"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 5000 kilowatt hours, when such energy is used between the hours of 5:00 p. m. and 10:00 p. m., 1¾ cents per kilowatt hour.

"Class EE Power" The kilowatt hours of energy furnished in any one month to any consumer in excess of 5000 kilowatt hours when the same is used between the hours of 10:00 p. m. and 5:00 p. m. of the following day, that is, when not used between the hours of 5:00 p. m. and 10:00 p. m. of the same day, 1½ cents per kilowatt hour.

"Class F Power"—When any consumer uses energy in excess of 10,000 kilowatt hours the rate for all energy furnished shall be 1½ cents per kilowatt hour.

For the foregoing purpose a minimum monthly charge shall be made of one dollar per meter of one kilowatt capacity or less, and one dollar for each additional kilowatt capacity required.

STREET LIGHTING

Arc Lamps, 6.6 ampere, $60.00 per annum.

Forty c. p. Tungstens, 6.6 ampere, $12.00 per annum.

Eighty c. p. Tungstens, 6.6 ampere, $24.00 per annum.

Cluster posts, 3c per K. W. H., plus lamp renewals.